

REMARKS

Applicant has added new claims 4-7 and has amended the drawings. Applicant respectfully submits that the amendments to the claims and the drawings are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims and the drawings as amended.

The Examiner has objected to drawings stating that Figs. 9-18 should be designated as prior art. By the enclosed letter to the Chief Draftsperson submitted for the Examiner's approval, Applicant has designated Figs. 9-18 as prior art.

The Examiner has rejected claims 1 and 3 under 35 USC 103 as being obvious over Japanese 10-278124 in view of Williams et al., stating that JP '124 discloses in Figs. 1a and 1b a plastic gear having teeth 3 on an annular portion thereof, a shaft supporting member 2, ribs 5 and a web portion 4 located between said rib and said teeth, but does not disclose that the web portion is corrugated; Williams et al. discloses in Figs. 1 and 3 a plastic gear having a corrugated web portion; and it would have been obvious to one of ordinary skill in the art to modify JP '124 in view of Williams to form the web with corrugations.

In reply thereto, Applicant would like to first point out that Applicant's invention is that the web between the annular tooth portion and the shaft supporting portion has a circumferential rib and the web between the circumferential rib and the tooth has a substantially corrugated shape cross-section.

With the above in mind, Applicant has carefully reviewed JP '124 and respectfully submits that while JP '124 may show a plastic gear as a circumferential rib formed on a web that is between the circumferential tooth portion and the shaft supporting section, there is no suggestion, teaching or showing in JP '124 that the web would have a cross-sectional corrugated shape or that there would be a need for such a corrugated sectional shape. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not be motivated by the teachings of JP '124 to use a corrugated sectional shape.

Applicant has also carefully reviewed Williams et al. and respectfully submits that Williams et al. does disclose a plastic gear in which there is a web having a corrugated shape in cross-section; however, Applicant respectfully submits that there is no circumferential web and the web is merely formed in a corrugated shape in cross-section. In addition, Applicant respectfully submits that in Williams et al., the corrugated web 12 extends from the coaxial inner

hub 11 and the outer annular rim 10 and when compared with the structure shown in JP '124 extends over a substantially greater area in distance than the web 4 located between the rib and the teeth in JP '124. Accordingly, Applicant respectfully submits that while the structure of Williams et al. may suggest that providing such a structure to resist forces tending to deform the rim 10 and the web 12, Applicant respectfully submits that it only suggests in a gear of the construction of Williams et al. and does not suggest that one would utilize corrugations for the web in a gear of the construction of JP '124. Still further, Applicant respectfully submits that Williams et al. does not show or suggest that one would provide a circumferential rib.

In view of the above, therefore, Applicant respectfully submits that nothing in either JP '124 nor Williams et al. suggests or motivates one of ordinary skill in the art to make the combination suggested by the Examiner. Accordingly, Applicant respectfully submits that one of ordinary skill in the art would not make the combination suggested by the Examiner and claims 1 and 3 are not obvious over JP '124 in view of Williams et al.

The Examiner has rejected claim 2 under 35 USC 103 as being obvious over Japanese 10-278124 in view of Williams et al. and further in view of Mlenjnek et al., stating that the combination of JP '124 and Williams et al. discloses the basic apparatus but does not disclose that the plastic gear is used to drive an image-forming device; Mlenjnek et al. teaches in Fig. 4 a laser printer drive train having drive means 31, 32 which drive a photoconductor drum 37 through a plastic gear 18; and it would have been obvious to modify the combination of JP '124 and Williams et al. to utilize the corrugated plastic gear in a drive train of a photoconductor apparatus to eliminate the vibration transmitted to the drum and thus improve print quality.

In reply thereto, Applicant would like to incorporate by reference his comments above concerning Applicant's invention, Williams et al. and JP '124. In addition, Applicant respectfully submits that while Mlenjnek et al. may disclose the use of a plastic gear in the drive train of a photoconductor apparatus, Mlenjnek et al. does not disclose or suggest that one would utilize such a corrugated plastic gear to eliminate vibration transmitted to the drum and thus improve print quality.

In view of the above, therefore, Applicant respectfully submits that claim 2 is not obvious over JP '124 in view of Williams et al. and further in view of Mlenjnek et al.

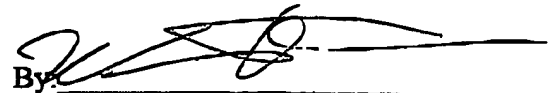
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

Respectfully submitted,

KODA & ANDROLIA

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William L. Androlia

Name

9/26/2002

Signature

Date

Application No. 09/870,279

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

New claims 4-7 have been added as follows:

- 4. The gear according to claim 1, wherein said circumferential sectional shape of said web is a corrugated shape contoured by a smooth curve.
5. The gear according to claim 1, wherein said circumferential sectional shape of said web is corrugated shape comprising triangles continuously connected together.
6. The gear according to claim 1, wherein a thickness of said web that has said circumferential sectional shape which is said corrugated shape contoured by said smooth curve is substantially equal to a thickness of other webs.
7. The gear according to claim 1, wherein a thickness of said web that has said circumferential sectional shape which is said corrugated shape contoured by said smooth curve is smaller than a thickness of other webs,—